



SEQUENCE LISTING

<110> American Cyanamid Company

<120> Vaccines Containing Recombinant Pilin Against Neisseria gonorrhoeae or Neisseria meningitidis

<130> 33377-00/PCT

<160> 24

<170> PatentIn version 3.1

<210> 1

<211> 504

<212> DNA

<213> Artificial

<220>

<221> CDS

<222> (1)...(501)

<223> Chimeric of Neisseria meningitidis Class I and Neisseria gonorrhoeae

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Met Asp Thr Leu Gln Lys Gly Phe Thr Leu Ile Glu Leu Met Ile Val	
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atc gcc atc gtc ggc att ttg gcg gca gtc gcc ctt ccc gcc tac caa	96
Ile Ala Ile Val Gly Ile Leu Ala Ala Val Ala Leu Pro Ala Tyr Gln	
20                      25                       30	

gac tac acc gcc cgc gcg caa gtt tcc gaa gcc atc ctt ttg gcc gaa	144
Asp Tyr Thr Ala Arg Ala Gln Val Ser Glu Ala Ile Leu Leu Ala Glu	
35                      40                       45	

ggc caa aaa tca gcc gtt acc gag tat tac ctg aat cac ggc gaa tgg	192
Gly Gln Lys Ser Ala Val Thr Glu Tyr Tyr Leu Asn His Gly Glu Trp	
50                      55                       60	

ccc ggc aac aac act tct gcc ggc gtg gca tct tct tca aca atc aaa	240
Pro Gly Asn Asn Thr Ser Ala Gly Val Ala Ser Ser Ser Thr Ile Lys	
65                      70                       75                       80	

ggc aaa tat gtt aag gaa gtt aca gtc gca aac ggc gtc att acc gcc	288
Gly Lys Tyr Val Lys Glu Val Thr Val Ala Asn Gly Val Ile Thr Ala	
85                      90                       95	

aca atg ctt tca agc ggc gta aac aaa gaa atc caa ggc aaa aaa ctc	336
Thr Met Leu Ser Ser Gly Val Asn Lys Glu Ile Gln Gly Lys Lys Leu	
100                    105                       110	

tcc ctg tgg gcc aag cgt caa gac ggt tcg gta aaa tgg ttc tgc gga	384
Ser Leu Trp Ala Lys Arg Gln Asp Gly Ser Val Lys Trp Phe Cys Gly	
115                    120                       125	

cag ccg gtt acg cgc acc gac gcc aaa gcc gac acc gtc gcc gcc gcc	432
Gln Pro Val Thr Arg Thr Asp Ala Lys Ala Asp Thr Val Ala Ala Ala	
130                    135                       140	

gcc aag acc gcc gac aac atc aac acc aag cac ctg ccg tca acc tgc      480  
Ala Lys Thr Ala Asp Asn Ile Asn Thr Lys His Leu Pro Ser Thr Cys  
145                150                155                160

cgc gac gca agt gat gcc agc taa      504  
Arg Asp Ala Ser Asp Ala Ser  
165

<210> 2  
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<212> PRT  
<213> Artificial  
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<221> amino acid  
<222> (1)..(167)  
<223> Chimeric of Neisseria meningitidis Class I and Neisseria gonorrhoeae

<400> 2

Met Asp Thr Leu Gln Lys Gly Phe Thr Leu Ile Glu Leu Met Ile Val  
1                5                10                15

Ile Ala Ile Val Gly Ile Leu Ala Ala Val Ala Leu Pro Ala Tyr Gln  
20                25                30

Asp Tyr Thr Ala Arg Ala Gln Val Ser Glu Ala Ile Leu Leu Ala Glu  
35                40                45

Gly Gln Lys Ser Ala Val Thr Glu Tyr Tyr Leu Asn His Gly Glu Trp  
50                55                60

Pro Gly Asn Asn Thr Ser Ala Gly Val Ala Ser Ser Ser Thr Ile Lys  
65                70                75                80

Gly Lys Tyr Val Lys Glu Val Thr Val Ala Asn Gly Val Ile Thr Ala  
85                90                95

Thr Met Leu Ser Ser Gly Val Asn Lys Glu Ile Gln Gly Lys Lys Leu  
100                105                110

Ser Leu Trp Ala Lys Arg Gln Asp Gly Ser Val Lys Trp Phe Cys Gly  
115                120                125

Gln Pro Val Thr Arg Thr Asp Ala Lys Ala Asp Thr Val Ala Ala Ala  
130                135                140

Ala Lys Thr Ala Asp Asn Ile Asn Thr Lys His Leu Pro Ser Thr Cys  
145                150                155                160

Arg Asp Ala Ser Asp Ala Ser  
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<210> 3

<211> 510

<212> DNA

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<223> Chimeric of Neisseria meningitidis Class II and Neisseria gonorrhoeae

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1 5 10 15

48

atc gcc atc gtc ggt atc ttg gca gcc gtc gcc ctg ccc gca tac caa  
Ile Ala Ile Val Gly Ile Leu Ala Ala Val Ala Leu Pro Ala Tyr Gln  
20 25 30

96

gac tac acc gcg cgc gcc caa atg tcc gaa gcc ctg act ttg gca gaa  
Asp Tyr Thr Ala Arg Ala Gln Met Ser Glu Ala Leu Thr Leu Ala Glu  
35 40 45

144

ggc caa aaa tcc gca gtg atc gag tat tat tcc gac aac ggc aca ttc  
Gly Gln Lys Ser Ala Val Ile Glu Tyr Tyr Ser Asp Asn Gly Thr Phe  
50 55 60

192

ccg aac agc aat act tcc gca ggt att gct gcc tct aac gag att aaa  
Pro Asn Ser Asn Thr Ser Ala Gly Ile Ala Ala Ser Asn Glu Ile Lys  
65 70 75 80

240

ggc aag tat gtg gca tcg gtt aag gtt gaa ggt aat gcc tct gtt gct  
Gly Lys Tyr Val Ala Ser Val Lys Val Glu Gly Asn Ala Ser Val Ala  
85 90 95

288

tct att acc gct acc atg aac tct agt aat gtg aat aag gac atc aaa  
Ser Ile Thr Ala Thr Met Asn Ser Ser Asn Val Asn Lys Asp Ile Lys  
100 105 110

336

ggc aaa acc ttg gta ctc gtc ggc aaa caa aac tcc ggt tcg gta aaa  
Gly Lys Thr Leu Val Leu Val Gly Lys Gln Asn Ser Gly Ser Val Lys  
115 120 125

384

tgg ttc tgc gga cag ccg gtt acg cgc gac aac gcc gac aac gac gac  
Trp Phe Cys Gly Gln Pro Val Thr Arg Asp Asn Ala Asp Asn Asp Asp  
130 135 140

432

gtc aaa gac gcc ggc aac aac ggc atc gaa acc aag cac ctg ccg tca  
Val Lys Asp Ala Gly Asn Asn Gly Ile Glu Thr Lys His Leu Pro Ser  
145 150 155 160

480

acc tgc cgc gat acg tca tct gat gcc aaa

510

Thr Cys Arg Asp Thr Ser Ser Asp Ala  
165

<210> 4  
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<212> PRT  
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<220>  
<221> amino acid  
<222> (1)..(169)  
<223> Chimeric of Neisseria meningitidis Class II and Neisseria gonorrhoeae

<400> 4

Met Glu Ala Ile Gln Lys Gly Phe Thr Leu Ile Glu Leu Met Ile Val  
1 5 10 15

Ile Ala Ile Val Gly Ile Leu Ala Ala Val Ala Leu Pro Ala Tyr Gln  
20 25 30

Asp Tyr Thr Ala Arg Ala Gln Met Ser Glu Ala Leu Thr Leu Ala Glu  
35 40 45

Gly Gln Lys Ser Ala Val Ile Glu Tyr Tyr Ser Asp Asn Gly Thr Phe  
50 55 60

Pro Asn Ser Asn Thr Ser Ala Gly Ile Ala Ala Ser Asn Glu Ile Lys  
65 70 75 80

Gly Lys Tyr Val Ala Ser Val Lys Val Glu Gly Asn Ala Ser Val Ala  
85 90 95

Ser Ile Thr Ala Thr Met Asn Ser Ser Asn Val Asn Lys Asp Ile Lys  
100 105 110

Gly Lys Thr Leu Val Leu Val Gly Lys Gln Asn Ser Gly Ser Val Lys  
115 120 125

Trp Phe Cys Gly Gln Pro Val Thr Arg Asp Asn Ala Asp Asn Asp Asp  
130 135 140

Val Lys Asp Ala Gly Asn Asn Gly Ile Glu Thr Lys His Leu Pro Ser  
145 150 155 160

Thr Cys Arg Asp Thr Ser Ser Asp Ala  
165

<210> 5  
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<210> 7  
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<212> DNA  
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<210> 8  
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<400> 8  
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<400> 11  
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<400> 19  
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<400> 23  
gcggccggat ccggtcattg tccttatttg gtgcggc 37

<210> 24  
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<400> 24

Glu Ala Ile Leu Leu Ala Glu Gly Gln Lys Ser Ala Val Thr Glu Tyr  
1 5 10 15

Tyr Leu Asn His Gly Lys

